We claim:

1. A dispersion or solution of a polymer in water, organic solvents or mixtures thereof, wherein the polymer comprises at least 0.001 mol of 3,4 dihydroxyphenyl groups (calculated at 109 g/mol) per 100 g of polymer.

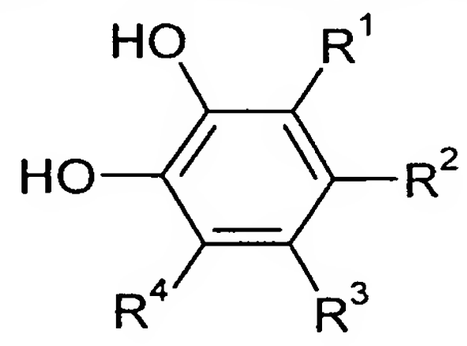
2. The dispersion or solution according to claim 1, which is an aqueous dispersion or solution.

3. The dispersion or solution according to claim 1 or 2, wherein the polymer is a polymer obtainable by free-radical addition polymerization of ethylenically unsaturated compounds.

4. The dispersion or solution according to one of claims 1 to 3, wherein the polymer is synthesized from at least 40% by weight of principal monomers selected from C_1 to C_{20} alkyl (meth)acrylates, vinyl esters of carboxylic acids comprising up to 20 carbon atoms, vinylaromatics having up to 20 carbon atoms, ethylenically unsaturated nitriles, vinyl halides, vinyl ethers of alcohols comprising 1 to 10 carbon atoms, aliphatic hydrocarbons having 2 to 8 carbon atoms and one or two double bonds or mixtures of these monomers.

5. The dispersion or solution according to one of claims 3 and 4, wherein the 3,4 dihydroxyphenyl groups are present in the polymer by copolymerization with monomers containing 3,4 dihydroxyphenyl groups.

6. The dispersion or solution according to claim 5, wherein the monomers containing 3,4 dihydroxyphenyl groups are those of the formula

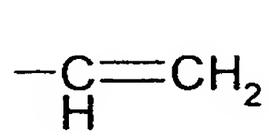


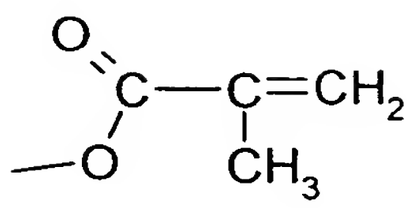
I

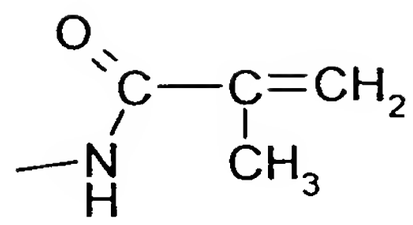
in which at least one of the radicals R^1 to R^4 is an organic radical comprising at least one free-radically polymerizable ethylenically unsaturated group, may consist in total of up to 50 carbon atoms and if appropriate also comprises heteroatoms such as O, N or S, and the remaining radicals are organic radicals without a copolymerizable group or are hydrogen.

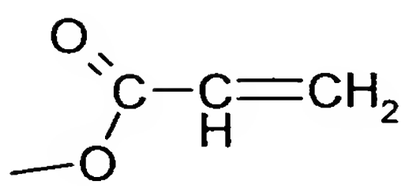
7. The dispersion or solution according to claim 5 or 6, wherein the monomers containing 3,4 dihydroxyphenyl groups are those in which at least one of the radicals R^1 to R^4 is a group –Y-X, where

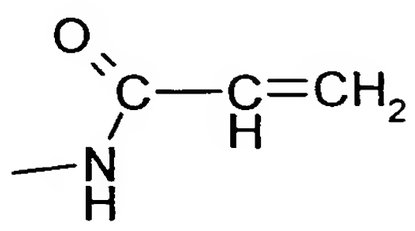
X is selected from











and

Y is a single bond or is a divalent spacer group having up to 30 carbon atoms and if appropriate heteroatoms such as O, N or S.

8. The dispersion or solution according to one of claims 1 to 7, wherein the glass transition temperature of the polymer is less than +10°C, preferably less than 0°C.

9. The dispersion or solution according to one of claims 1 to 8, wherein the pH of the dispersion or solution is less than 7.

10. The use of the dispersion or solution according to one of claims 1 to 9 as adhesive, sealant, coating material or impregnating composition.

11. The use according to claim 10, wherein the dispersion or solution is stored oxygen-free prior to use and comes into contact with oxygen only upon use.

12. The use according to claim 10 or 11, wherein the dispersion or solution has a pH of less than 4 prior to use and this pH is increased to more than 4 upon use.

13. The use according to one of claims 10 to 12, wherein the use takes place under water.

14. Free-radically polymerizable monomers containing 3,4 dihydroxyphenyl groups and at least one free-radically polymerizable double bond, obtainable by reacting compounds I having a 3,4 dihydroxyphenyl group which is substituted by at least one further organic radical containing a hydroxyl group or carboxyl group with compounds II which contain at least one free-radically polymerizable double bond

and at least one group which is reactive toward compounds I, e.g., a hydroxyl, carboxyl or epoxy group.

15. Monomers according to claim 14, wherein compounds I are substituted by a hydroxyalkyl group and compounds II comprise an ethylenically unsaturated acid.

16. Monomers according to claim 14, wherein compounds I are substituted by a carboxyl group and compounds II comprise ethylenically unsaturated epoxides.

Polymer dispersions or solutions comprising 3,4 dihydroxyphenyl groups

Abstract

Dispersion or solution of a polymer in water, organic solvents or mixtures thereof, wherein the polymer comprises at least 0.001 mol of 3,4 dihydroxyphenyl groups (calculated at 109 g/mol) per 100 g of polymer.